

Appl. No. 10/657,320  
Atty. Docket No. 8652C  
Amdt. dated June 10, 2004  
Reply to Office Action of March 10, 2004  
Customer No. 27752

REMARKS

Claims 1 - 15 are pending in the present application. No additional claims fee is believed to be due.

Summary of the Invention

The present invention relates to a printed substrate having microscopic color density variation. The printed substrate has indicia on at least one of its outer surfaces, where the indicia is comprised of print elements. The printed substrate includes three separate color densities: a substrate color density, a background color density, and a print element color density. The background color density is greater than said substrate color density and less than said print element color density. Typical printing methods have only two color densities, the background color density where no ink is printed, and the print element color density where the ink is printed.

The printed substrates having these three color densities provide either 1) images with higher ink densities while using standard inks at standard ink laydowns and having standard ink rub off characteristics or 2) images with the same ink densities as standard printing but using lower levels of standard inks and getting reduced levels of ink rub off.

Rejection Under 35 USC 112, Second Paragraph

The Examiner has rejected Claim 1 of the above-identified application as being indefinite. She states that the phrase "a substrate color density, a background color density" is unclear as to what the difference is between color and background density. Applicant respectfully traverses this rejection. The determination of whether a claim is invalid as indefinite depends on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the specification. Intellectual Property Development, Inc. v. UA-Columbia Cablevision of Westchester, Inc., 336 F.3d 1308 (Fed Cir. 2003). The specification, on page 5, very clearly defines three distinct densities related to the print characteristics of the indicia on the substrate. Typical industrial printing requires a print of only two densities. One skilled in the art would clearly understand the scope of the claim upon reading the specification.

A "print element color density" refers to the color density of each individual print element within the image of the indicia. This is the same as the color density of print elements of typical printing processes. A "substrate color density" is defined as the color density of the unprinted areas of the substrate. This is also the same as typical printing processes which apply a print element with a print element color density on a substrate with ink only being applied within the confines of the print element. A "background color density" is defined by the present invention as

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a color density surrounding each individual print element within the image area of the printed surface. The background color density is the lower value since very little, or preferably no ink is found in this area. The print element color density is the highest value since where the majority of the ink is applied in order to convey the image of the indicia. The background color density is measured in the area of the substrate around the print elements where some ink, but at a lower level than that in the print element, is allowed to deposit on the substrate. Therefore, Applicant submits that each of these three critical color densities are adequately defined, and adequately distinct, in the specification to support the claims.

Applicant submits that one skilled in the art would understand the scope of claim 1 and therefore, that the rejection of Claim 1 under §112, second paragraph related to the color densities is erroneous and should be withdrawn.

Rejection Under 35 USC 102 Over Mowry

The Examiner has rejected Claims 1-3, 5, 6, 8, 10, 12, 14 and 15 as being anticipated by U.S. Pat. No. 5,853,197 issued to Mowry, Jr. et al. on December 29, 1998 ("Mowry"). Applicant traverses this rejection.

Mowry relates to a security document comprising a variety of printed indicia combinations, each of which provide a different imaging convention known to prevent the copying of the document without notice. Each imaging convention is comprised of a specific selection of print elements (e.g. small and large dots, line segments, triangles, etc. (Col. 5, lines 46-64). The different arrays of dots and lines all react differently upon being seen by a color copier and as a result the copier can not create a perfect replica of the original document. All of these print elements are printed at the same desired print element ink color density on a substrate with a substrate color density. Nowhere in Mowry is it taught that the third density of ink, required by the present invention, should be applied to the substrate around the print elements. In fact, the application of such a third density in the article of Mowry would result in the activation of the security notification (e.g. the word "VOID" in the figures of Mowry), because the particular geometric relationships critical in Mowry would be altered by the background ink.

The Examiner points to #22 and #52 of the figures of Mowry as disclosing the background color density of the present invention. Areas #22 and #52 of Mowry are both defined therein as background printed matter. (Col. 4, line 37). The background printed matter by its configuration of print elements blends appropriately with the security term it is associated with. The print elements are printed with one density, the print element density, without any surrounding background density of ink.

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In order to be held to be invalid as being anticipated, all of the elements and limitations of the claim must be described in a single reference. Merck & Co., Inc. v. Teva Pharmaceuticals USA, Inc., 347 F.3d 1367 (Fed. Cir. 2003). Applicant submits that since Mowry does not teach the background color density for use in its printed article, Mowry does not anticipate the Claims of the present invention. Therefore, Applicant submits that the rejection of the claims of the present invention as being anticipated by Mowry is erroneous and should be withdrawn.

Rejection Under 35 USC 102 Over Brugada

The Examiner has rejected Claims 1-3, 8 and 10-14 as being anticipated by U.S. Pat. No. 5,904,375 issued to Brugada on May 18, 1999 ("Brugada"). Applicant traverses this rejection as well.

Brugada also relates to security supports, including paper, comprising a micropattern of microtext or microlines printed on the support. The elements of the micropattern are separated by distances smaller than the limit of resolution power of a copying machine. The microelements are printed on the substrate using a first ink, a nonabsorbent ink which is either transparent or the same color as the support (Col 2, line 26-45). Here, again, there is no background color density of the ink. In fact, the resulting virgin security paper is designed to have only the support color density so the micropattern is not visible on the virgin sheet. Since the virgin security paper of Brugada only comprises one color density, the substrate color density, it does not anticipate the claims for the printed substrates of the present invention.

Brugada then teaches that the virgin security paper may be printed or written on, where due to the differential absorbencies between the substrate or the paper and the nonabsorbent printed micropattern, the micro pattern will be observable under magnification in the body of the printed print element or writing. The purpose of the micropattern is that it will be irresolvable to a copier and therefore not visible in a duplicated copy, thereby providing a mechanism to check for originality of the document. Again, nowhere in the teaching of the printed or written upon security document of Brugada is the desire to use three ink densities in printing an indicia upon a support. The Examiner points to item #10 as representing the background color density of the present invention. Applicant points out that item #10 is the printed or written image that is printed or written over the substrate/nonabsorbent micropattern support and in no way represents a background color density. Clearly, by the definition of the invention of Brugada, the density of the printed/written image will be significantly greater than common density of the substrate and the micropattern.

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Again, Applicant submits that since Brugada does not teach the background color density for use in its printed article, Brugada does not anticipate the Claims of the present invention. Therefore, Applicant submits that the rejection of the claims of the present invention as being anticipated by Mowry is erroneous and should be withdrawn.

Rejection Under 35 USC 103(a) Over Mowry in view of Harris

Claims 4, 7 and 9 have been rejected under 35 USC 103(a) as being unpatentable over Mowry in view of U.S. Pat. No. 5,871,615 issued to Harris on February 16, 1999 ("Harris"). Applicants respectfully traverse this rejection since the combination of Mowry and Harris does not establish a *prima facie* case of obviousness because it does not teach or suggest all of Applicants' claim limitations.

As discussed above Mowry relates to a security document comprising a variety of printed indicia combinations, each of which provide a different imaging convention known to prevent the copying of the document with out notice. However, as pointed out, Mowry does not teach the background color density of the present invention. Harris relates to a security paper that has been formed with a tactile surface profile which has been printed. The Examiner used Harris to provide a textured paper to be used in the security document of Mowry to introduce the textured element of Claims 4, 7, and 9 of the present invention.

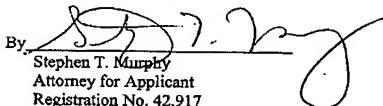
To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), the prior art reference or combination of references must teach or suggest all the claim limitations: *In re Vaeck*, 947 F.2d 488 (Fed Cir. 1991). Since Mowry does not teach the background color density as required by the claims of the present invention and Harris does not resolve this omission, the combination of Mowry and Harris does not teach all the claim limitation of Claims 4, 7, and 9 of the present invention. Therefore, Claims 4, 7, and 9 of the present invention are unobvious over the combination of Mowry and Harris and the rejection of the claims under 35 U.S.C. §103(a) is erroneous and should be withdrawn.

Conclusion

In light of the above remarks, it is requested that the Examiner reconsider and withdraw the rejections under 35 U.S.C. §§112, second paragraph, 102(b) and 103(a). Early and favorable action in the case is respectfully requested. In view of the foregoing, Applicants respectfully request reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-15.

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